

I 18000-66

ACC NR: AP6007932

noted that, unlike Ionol, BOBM reacted with hydroperoxides thereby terminating the chain of the oxidation, and that BOBM actively inhibited oxidation not only at the initial stage but also in the course of this autocatalytic process. Orig. art. has: 5 figures. [SM]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 005/ ATD PRESS: 4213

Card 212: 2105

L 29836-66 EWT(m)

ACC NR: AP6012874

SOURCE CODE: UR/0205/66/006/002/0272/0277

27  
B

AUTHOR: Kudryashov, Yu. B. ; Kakushkina, M. L. ; Mekhtiyeva, S. M. ; Rachinskiy, F. Yu. ;  
Sumarukov, G. V. ; Filenko, O. E.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Comparative evaluation of the protective activity of potential radioprotective agents (Bunte salts) on various biological models

SOURCE: Radiobiologiya, v. 6, no. 2, 1966, 272-277

TOPIC TAGS: radioprotective agent, radiation biologic effect, ~~experiment animal~~  
MOUSE, BLOOD

ABSTRACT: It has been postulated that the aminoalkylthiosulfuric acids or Bunte salts can be hydrolyzed in vivo to yield radioprotective aminoalkylthiols. In order to confirm this and develop a means of testing potential radioprotective agents against in vitro models, the activity of 7 of these salts was compared with that of 3 known radioprotective agents in male white mice irradiated with 200 - 1000 rad, and in intact human erythrocytes,

Card 1/3

UDC: 577.391:628.58

L 29836-66

ACC NR: AP6012874

Radio-protective agents	Chemical formula	Mice			% protection compared to $\beta$ -mercaptoethylamine			chemical model of $\beta$ -carotene	
		1	2	3	yeast cells		erythrocytes		
					4	5	6		7
Amino-thiols	1. H <sub>2</sub> NCH <sub>2</sub> SH	200	100	-14 $\pm$ 1.9	100	100	100	100	100
	2. H <sub>2</sub> NCH <sub>2</sub> -C(SH) <sub>2</sub>	250	80	-103 $\pm$ 7.0	100	100	100	100	100
Amino-sulfonamide drugs	3. H <sub>2</sub> NCH <sub>2</sub> -S	350	100	-150 $\pm$ 11.1	100	100	100	100	100
	4. H <sub>2</sub> NCH <sub>2</sub> -S	400	96	-119 $\pm$ 13.7	30	75	100	100	100
	5. H <sub>2</sub> NCH <sub>2</sub> SO <sub>2</sub> NH <sub>2</sub>	200	74	-80 $\pm$ 6.4	35	35	100	100	100
	6. H <sub>2</sub> N-CH <sub>2</sub> -SO <sub>2</sub> -NH <sub>2</sub>	---	---	---	---	---	---	---	---
	7. H <sub>2</sub> N-CH <sub>2</sub> -SO <sub>2</sub> -NH <sub>2</sub>	100	66	-72 $\pm$ 7.7	30	75	100	100	100
	8. H <sub>2</sub> NCH <sub>2</sub> SO <sub>2</sub> NH <sub>2</sub>	200	53	-65 $\pm$ 4.8	---	---	---	---	---
	9. H <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> SO <sub>2</sub> NH <sub>2</sub>	200	30	-55 $\pm$ 4.8	30	45	100	100	100
	10. H <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> SO <sub>2</sub> NH <sub>2</sub>	---	---	---	30	15	---	---	---

1 - Maximal tolerated dose of the preparation (mg/kg); 2 - Survival to 30 days after irradiation with 700 r; 3 -  $\Delta$  E of mouse tissues (muv) 20-30 min. after inj. of the preparation; 4 - radiation model; 5 - radiochemical model; 6 - radiation model (200 kr); 7 - radiochemical model; 8 - concentration of each preparation is 0.03 M; 9 - Concentration of the preparations.

Note: The numbers in parentheses indicate the absolute value of the protective coefficient, representing the ratio  $\frac{D_{50}(a)}{D_{50}(b)}$  for the erythrocyte models and the ratio  $\frac{S_{30}(a)}{S_{30}(b)}$  for the yeast models, where  $D_{50}$  = time for 50% hemolysis,  $S_{30}$  = survival of colonies in % at dose  $D_{50}$ ; (a) indicates addition of a radioprotective agent, and (b) indicates control, i.e. without the addition of a radioprotective agent.

Preparation were insoluble in the samples

Card 2/3

L 29836-66

ACC NR: AP6012874

haploid yeast cells (*Zygosaccharomyces bailii*), or solutions of  $\beta$ -carotene irradiated with 1000 rad/min; the protective agents were injected intraperitoneally 25 - 30 min before irradiation or added to the suspension 1 - 5 min before irradiation or addition of a radiomimetic agent. The results shown in the table indicate that compounds can be tested for radioprotective activity in in vitro systems, but that prolonged contact is required. Orig. art. has: 1 table, 1 figure, and 2 formulas. [08]

SUB CODE: 06/ SUBM DATE: 05Aug64/ ORIG REF: 009/ OTH REF: 001/ ATD PRESS: 5013

Card 3/3 *KV*

L 35342-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6009872 (A) SOURCE CODE: UR/0413/66/000/004/0068/0068

INVENTOR: Rachinskiy, F. Yu.; Bruk, Yu. A.; Matveyeva, Ye. N.; Polushkina, O. V.;  
Kremen', M. Z.; Lazareva, N. P. 42  
B

ORG: None

TITLE: Stabilization of polyolefins. Class 38, No. 178979<sup>15</sup> [announced by State Scientific-Research Institute of Polymerization Plastics, Experimental Plant (Gosodastvennyy nauchno-issledovatek'skiy institut Polimerizatsionnykh plastmass eksperimental'nyy zavod); Military-Medical Academy, Order of Lenin, im. S. M. Kirov (Voyenno-meditsinskaya ordena Lenina Akademiya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 68

TOPIC TAGS: polyolefin, stabilization, heat resistant polymer

ABSTRACT: An Author Certificate has been issued describing a method of stabilizing polyolefins. In order to make heat resistant polymers<sup>15</sup> N-substituted parahydroxybenzylamines with a shielded hydroxy group are used as the stabilizer<sup>15</sup> [LD]

SUB CODE: 11/ SUBM DATE: 12Aug64

Card 1/1 *bdh*

UDC: 678.741.679.048.2

2834 Rachinsk'iy, G. N.

Vyrashivanie molodi lesna sovzestno s molod'yu sudaka v nerastovo-vyrastnykh kho zyaistvakh. M., 1954. 16 s. 20 sm. (Mosk. tekhn. in-t rybnoi prom-sti i khoz'yaistva im. A. I. Mikoyana. Kafedra rybovodstva v yestestv. vodozemakh). 110 Eks. B. ts. -- (54-55753)

RACHINSKIY, I.D.

Zinc content in the blood of patients at different stages  
of atherosclerosis. Vrach. delo no.12:75-78 D '63.

(MIRA 17:2)

1. Kafedra gospital'noy terapii (zav. - prof. L.T. Malaya)  
lechebnogo fakul'teta Khar'kovskogo meditsinskogo instituta.

BAKANOV, N.I., inzh.; RACHINSKIY, M.N., inzh.; RUMYANTSEV, V.P., inzh.

Why there was a delay in the mastering of the production lines  
in Iskitim. Stroi. mat. ll no.47 8 Ap '65. (MIRA 18:6)

CHUVATOV, V.V.; BEREZIN, N.N.; METSGER, E.Kh.; NAGIN, V.A.; KARTASHOV, N.A., kand. tekhn. nauk, dots.; MIL'KOV, N.V., kand. tekhn. nauk; BYCHKOV, M.I., kand. tekhn.nauk, dots.; SUKHANOV, V.P., SHLYAPIN, V.A.; KORZHENKO, L.I.; ABRAMYCHEV, Ye.P.; KAZANTSEV, I.I.; YARES'KO, V.F.; LUKOYANOV, Yu.N.; DUDAROV, V.K.; BALINSKIY, R.P.; KOROTKOVSKIY, A.E.; PONOMAREV, I.I.; NOVOSEL'SKIY, S.A., kand. tekhn.nauk, dots.; IL'INYKH, N.Z.; TSITKIN, N.A.; ROGOZHIN, G.I.; PRAVOTOROV, B.A.; ORLOV, V.D.; RACHINSKIY, M.N.; KULTYSHEV, V.N.; SMAGIN, G.N.; KUZNETSOV, V.D.; MACHERET, I.G.; SHEGAL, A.V.; GALASHOV, F.K.; ANTIPIN, A.A.; SHALAKHIN, K.S.; RASCHETAYEV, I.M.; TISHCHENKO, Ye.I.; FOTIYEV, A.F.; IPPOLITOV, M.F.; DOROSINSKIY, G.P.; ROZHKOV, Ye.P.; RYUMIN, N.T.; AYZENBERG, S.L.; GOLUBTSOV, N.I.; VUS-VONSOVICH, I.K., inzh., retsenzent; GOLOVKIN, A.M., inzh., retsenzent; GUSELETOV, A.I., inzh., retsenzent; KALUGIN, N.I., inzh., retsenzent; KRAMINSKIY, I.S., inzh., retsenzent; MAYLE, O.Ya., inzh., retsenzent; OZERSKIY, S.M., inzh., retsenzent; SKOBLO, Ya.A., dots., retsenzent; SPERANSKIY, B.A., kand. tekhn. nauk, retsenzent; SHALAMOV, K.Ye., inzh., retsenzent; VOYNICH, N.F., inzh., red.; GETLING, Yu., red.; CHERNIKHOV, Ya., tekhn. red.

[Construction handbook] Spravochnik stroitelia. Red.kollegia: M.I. Bychkov i dr. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo. Vol.1. 1962. 532 p. Vol.2. 1963. 462 p. (MIRA 16:5)  
(Construction industry)

AKHUNDOV, A.R.; RACHINSKIY, M.Z.

Hydrochemical characteristics and certain features of the formation of the reservoir waters of the sub-Kirmaki and Kala series of the Zyrya area. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk i nefti no.2:47-57 '63.

(MIRA 17:10)

AKHUNDOV, A.R.; RACHINSKIY, M.Z.

One characteristic of the reservoir waters of the gas-  
condensate pools of Azerbaijan. Dokl. AN Azerb. SSR 20  
no.9:33-36 '64. (MIRA 18:1)

1. Institut razrabotki neftyanykh i gazovykh mestorozhdeniy  
AN AzerSSR. Predstavleno akademikom AN AzerSSR Sh.F.  
Mekhtiyevym.

RACHINSKIY, S.V.

Method of streptomycin therapy of tuberculous meningitis in children.  
Pediatria, Moskva No.4:31-38 July-Aug 51. (CIML 21:4)

1. Of the Tuberculosis Division (Head--Prof. I.V. Tsimbler), Institute  
of Pediatrics of the Academy of Medical Sciences USSR (Director--Prof.  
G.N. Speranskiy, Active Member of the Academy of Medical Sciences USSR).

RACHINSKIY, S.V.

Modern methods of the treatment of tuberculosis in children. Fel'dsher  
& akush. no.8:6-12 Aug 1953. (CLML 25:1)

1. Moscow.

RACHINSKIY S.V.  
RACHINSKIY, S.V., kand.med.nauk

Some data in the ratio of forms of infection and involvement in tuberculosis in infants [with summary in English]. *Pediatrics* 36 no.1:7-14 Ja '58. (MIRA 11:2)

1. Iz tuberkuleznogo otdeleniya (zav. - prof. I.V.TSimbler) Instituta pediatrii AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. O.D. Sokolova-Ponomareva)  
(TUBERCULOSIS, CONGENITAL, HEREDITARY AND INFANTILE)

RACHINSKIY, S.V., kand.med.nauk; RUDOY, N.M., kand.med.nauk; KROMSHTADSKAYA-  
KAROVA, B.K.

Discovery of Koch's bacillus in the gastric lavage waters from  
young children with tuberculosis. Probl.tub. 36 no.7:75-79  
'58. (MIRA 12:8)

1. Iz tuberkuleznogo otdeleniya (zav. - prof.I.V.TSimbler)  
Instituta pediatrii AMN SSSR (dir. - chlen-korrespondent AMN  
SSSR prof.O.D.Sokolova-Ponomareva) i dispansernogo otdeleniya  
(zav. - prof.M.I.Oyfebakh) Instituta tuberkuleza AMN SSSR (dir.  
Z.A.Lebedeva).

(TUBERCULOSIS)

RACHINSKIY, S.V.

Experience in the use of adrenal cortex preparations and ACTH in the  
combined treatment of tuberculosis in early childhood. *Pediatrics*  
23 no. 5:51-58 My '60. (MIRA 14:1)  
(ADRENOCORTICAL HORMONES) (ACTH) (TUBERCULOSIS)

RACHINSKIY, S.V., kand.med.nauk; TATOCHENKO, V.K.

Effect of adrenal cortex preparations and ACTH on the course  
of tuberculosis in infants. Probl.tub. 39 no.2:41-47 '61.

(MIRA 14:3)

1. Iz tuberkuleznoy kliniki (zav. - prof. I.V. TSimbler) Insti-  
tuta pediatrii (dir. - chlen-korrespondent AMN SSSR prof. O.D.  
Sokolova-Ponomareva) AMN SSSR.

(CORTISONE) (ACTH) (TUBERCULOSIS)

RACHINSKIY, S.V., kand.med.nauk; TATOCHENKO, V.K., kand.med.nauk;  
SPOROV, O.A., kand.med.nauk; MASLOVSKAYA, T.B., kand.med.nauk

Outcome of segmental and lobar lesions in primary tuberculosis in  
young children under the influence of antibacterial therapy. Probl.  
tub. 41 no.6:35-41 '63. (MIRA 17:9)

1. Iz detskoy tuberkuleznoy bol'nitsy No.9 Baumanskogo rayona  
(glavnyy vrach Ye.S. Babedeva) i tuberkuleznogo otdeleniya (zav. -  
prof. I.V.TSimbler) Instituta pediatrii AMN SSSR, Moskva.

RUDOY, N.M., kand.med.nauk; RACHINSKIY, S.V.

Drug resistance of mycobacterium tuberculosis in young children.  
Probl. tub. 41 no.8:41-45 '63. (MIRA 17:9)

1. Iz dispansernogo sektora (zav. - prof. M.I.Oyfebakh) Tsentral'nogo  
inst'tuta tuberkuleza (dir. - deystvitel'nyy chlen AMN SSSR prof.  
N.A.Shmelev) Ministerstva zdravookhraneniya SSSR i tuberkuleznogo  
otdeleniya (zav. - prof. I.V.TSimbler) Instituta pediatrii (dir. -  
dotsent M.Ya. Studenikin) AMN SSSR.

RACHINSKIY, V.A.

RACHINSKIY, V.A., uchitel'.

A new textbook on the principles of stockbreeding ("The principles of stockbreeding" by P.A. Esaulov and S.S. Shain. Reviewed by V.A. Rachinskiy). Politekh. obuch. no.1:76-78 Ja '58. (MIRA 10:12)

1. Kommunarskaya srednayaya shkoa Moskovskoy oblasti.  
(Stock and stockbreeding)  
(Esaulov, P.A.) (Shain, S.S.)

RACHINSKIY, V.K.; TIMOFEEV, Yu.V.

Mechanizing the laying of cables in trenches. Energetik 1 no.4:8-10 S '53.  
(MLDA 6:8)  
(Electric cables)

RACHINSKIY, V. V.

Oct 1947

USSR/Medicine - Plants  
Nuclear Physics - Isotopes

"The Distribution of Phosphorous in Organs of Plants in Experiments with Radioactive Isotopes  $p^{32}$ ," V. M. Klechkovskiy, D. D. Ivananko, V. B. Bagaev, V. V. Rachinskiy, Moscow Agr Acad imeni K. A. Timiryazev, 3 pp

"Dok Akad Nauk SSSR" Vol LVIII, No 1

In general, results of experiments show that the character of distribution of radioactive phosphorous in the organs of a plant depends upon the condition of the plant and is connected with its diet. In the case of a moderate phosphate diet, when the plant is on the border of evident starvation for phosphorous, the correspondence between the general amount of phosphorous and the contents of radioactive phosphorous introduced into the plant differs sharply in various organs. Submitted by Academician D. N. Pryanishnikov, 2 Apr 1947.

PA 52T55

RACHINSKIY, V. V.

USSR/Chemistry - Ions, Electrolytic, Exchange of  
Chemistry - Phosphates

Jun 1948

"The Dynamics of Ion Exchange," D. D. Ivanenko, V. V. Rachinskiy, T. B. Gapon,  
E. N. Gapon, Moscow Agr Acad imeni K. A. Timiryazev, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 7

Study of the dynamics of the exchange of phosphate ions. Submitted Mar 1948

PA76T8



USSR/Chemistry - Ion-Exchange Resins Jan/Feb 51

193710  
"Review of I. E. Apol'tsyn, V. A. Klyachko, Yu. Yu. Iur'ye, and A. S. Smirnov's 'Ionites and Their Use', Edited by P. P. Trofimenko, " V. V. Rechnitskiy, "Uspekh Khim" Vol XX, No 1, pp 135, 136

Devoted mainly to ion-exchange resins, subject books contains valuable tech material on technology of production, standardization of adsorbents, design and use of industrial equipment, listing of technological properties of most useful standardized adsorbents. Work done at VodGeo (All-Union Sci Res Inst of Water Supply, Sewerage, Hydraulic Eng

193710

USSR/Chemistry - Ion-Exchange Resins Jan/Feb 51  
(Contd)

Structures, and Eng Hydrogeol) and MKhTI (Moscow Chemicalotechnol Order of Lenin Inst iment D. I. Mendeleev) has made high-quality domestic adsorbents available to USSR industry and science. Errors in terminology and theory, omission of historical summary, and lack of credit given USSR scientists, especially to M. S. Tavet as discoverer of chromatography make book unsuitable for students and majority of readers. Book published by Studentdizis, 1944, 5,000 copies, price 12 r.

193710

RACHINSKIY, V. V.

CA

112

Tracer atoms and the study of living plants. V. V. Machinskii. *Uspokhi Sovremennoi Biol.* 31, 370-94 (1951).  
Use of radioactive isotopes such as  $C^{14}$ ,  $P^{32}$ ,  $K^{40}$ ,  $Na^{22}$ ,  $Rb^{86}$ , and  $H^{3}$  are reviewed for research in genetics, photosynthesis, and plant growth. 83 references. U. S. S. R.

DUBININ, M.M., akademik, otvetstvennyy redaktor; GAPON, Ye.N.; GAPON, T.B.;  
ZHYPAKHINA, Ye.S.; RACHINSKIY, V.V.; BELEN'KAYA, I.M.; SHUVAEVA, G.M.;  
ROGINSKIY, S.Z.; YANOVSKIY, N.I.; FUES, N.A.; KISELEV, A.V.; NEYMARK, I.Ye.;  
SLINYAKOVA, I.B.; KHATSET, P.I.; LOSEV, I.P.; TROSTYANSKAYA, Ye.B.;  
TEVLINA, A.S.; DAVANKOV, A.B.; SALDAKE, K.M.; BRUMBERG, Ye.M.; ZHIDKOVA,  
Z.V.; VEDENEVA, N.Ye.; NAPOL'SKIY, S.A.; MIKHAYLOVA, Ye.A.; KAZANSKIY, B.A.;  
RYABCHIKOV, D.I.; SHEMYAKIN, F.M.; KHETOVICH, V.L.; BUNDEL', A.A.; SAVINOV,  
B.G.; VENDT, V.P.; EPSHTEYN, Ya.A.

[Research in the field of chromatography transactions of the All-Union  
Conference on Chromatography, November 21-24, 1950] Issledovaniia v oblasti  
khromatografii; trudy Vsesoiuznogo soveshchaniia po khromatografii, 21-24  
noiabria 1950 g. Moskva, Izd-vo Akademii nauk SSSR, 1952. 225 p.

(MLRA 6:5)

1. Akademiya nauk SSSR. Otdelenie khimicheskikh nauk.

(Chromatographic analysis)

RACHINSKIY, V.V.

Radiochromatographic method and its significance. E. N. Gapon and V. V. Rachinskiy. Issledovaniya v Oblas-  
ti Khromatog., Trudy Vsesoyuz. Soveshchaniya Khromatog.,  
Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1950, 30-4 (Pub.  
1952); cf. C.A. 43, 7859d; Ivanenko, et al., C.A. 43, 2067b.  
—The use of chromatographic sepn. methods in connection  
with labeled compds., contg. radioactive isotopes, such as  
 $P^{32}$ , is discussed theoretically and the applications to such  
studies as *phosphate mobility in soils, or biochem. reactions*  
are discussed. The "reading" of the results can be accom-  
plished with radiation counters or photographically; most  
useful is paper radiochromatography. G. M. Kosolarioff —

MX

1. RACHINSKIY, V. V., KNYAZYATOVA, Ye. I., KRAVTSOVA, E. Ye..
2. USSR (600)
4. Chromatographic Analysis
7. Method of preparation and of qualitative analysis of paper chromatograms of sugars. Biokhimiia 17, no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

**RACHINSKIY, V.V.;KNYAZYATOVA, Ye.I.**

**Analysis of sugars by paper partition chromatography. Doklady Akad  
nauk SSSR 85 no. 5:1119-1122 11 Aug 1952. (CLML 23:3)**

**1. Presented by Academician A. I. Oparin 19 1952. 2. Moscow Agri-  
cultural Academy imeni K. M. Timiryazev.**

RACHINSKIY, V.V.; GAPON, T.B.

[Chromatography in biology] Khromatografiia v biologii. Moskva, Izd-vo  
Akademii nauk SSSR, 1953. 193 p. (MLBA 6:11)  
(Chromatographic analysis) (Biochemistry)

RACHINSKIY, V. V. <sup>(2)</sup>  
Chemical Abst.  
Vol. 48 No. 6  
Mar. 25, 1954  
General and Physical Chemistry

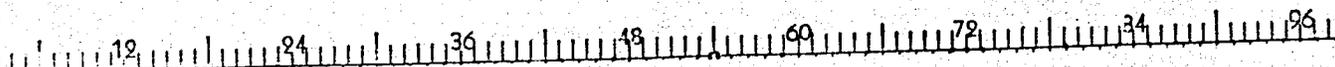
The general theory of the approximate calculation of chromatograms and its application. V. V. Rachinskiy. *Izvest. Timiryazev. Sel'skokhoz. Akad.* No. 2(3), 193-202 (1953).  
A discussion of a possible approach in solving the chromatographic process by a method of differential equations. R. arrives at a system of equations and applies these to mol. chromatograms (the distributive and sorption types) and ion-exchange chromatograms. J. S. Joffe

MF  
M-5-501

RACHINSKIY, V.V.; KNYAZYATOVA, E.I.; KRAVTSOVA, B.B.

Analysis of sugars in plants by paper chromatography. *Biokhimiya*  
18, 19-23 '53. (MLRA 6:1)  
(CA 47 no.15:7578 '53)

1. K.A. Timiryazev Agr. Acad., Moscow.



1. RACHINSKIY, V. V.
2. USSR (600)
4. Chromatographic Analysis
7. General theory of an approximate computation of chromatograms, Dokl. AN SSSR 88, no. 4, 1953.

A general theory for the approx calc of chromatograms is considered. The adsorption column is divided up into a finite no of layers and the original soln introduced into the first layer. Knowing the initial concn of the soln and the eq for the adsorption, it is possible to calc the end concns in the sorbent and in the soln. A general eq is given for p layers. Presented by Acad. M. M. Dubinin  
9 Oct 52.

256T22

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

RACHINSKIY, V.V.

U S S R

Radiochromatographic method applied in the study of sorption phenomena. V. V. Rachinskiy. *Izvest. Timiryazev. Sel'skokhoz. Akad.* 1954, No. 3 (Whole No. 6), 219-32.

The theoretical basis of chromatography and the advantages of using radioactive indicators are discussed. With isotopes it is possible to follow the course of reactions, whereas with regular elements only the final reactions can be traced in the chromatogram. This point is illustrated by the chromatography of P ions. With  $P^{32}$  the course of the reaction can be followed by Geiger counters, tracing directly the movement and distribution of the matched components. The output curves of the distribution of substances in the gradually accumulating filtrates can be obtained. By this method the sensitivity of the chromatogram can be increased from  $10^{-4}$ - $10^{-5}$  to  $10^{-12}$ - $10^{-13}$  units. Examples are cited of biol. reactions in living organisms, animal or plant, where radiochromatograms supply information not obtainable otherwise. Data are presented on the dynamics of the sorption of P ion by inorg. sorbents. Anion-absorbing  $Al_2O_3$  and cation (Na and Ca)-absorbing  $Al_2O_3$  were used. In some expts. Na-zeolite was used. The sorbents were placed in tubes, 5-8 mm. in diam. and 15 cm. long, compacted by pulling air through the column, and moistened with  $H_2O$ . One ml. of a Na- $P^{32}$  soln. (pH 6.4) contg. 5 mg.  $P_2O_5$  was introduced. As percolation was inaugurated, the radiation intensity was measured along the columns and on the filtrate. The technique of measuring the radiation through slits in the lead shield is described in detail. Curves are presented on the distribution of P ions in the  $NO_3^-$ -exchangeable column of  $Al_2O_3$ , Na, and Ca columns, as well as of the zeolite columns. The reactions of  $NO_3^-$  sorption

1/2

A 2/2

115 P

RACHINSKII, V.V.

are given in the following scheme:  $(Al_2O_3)_n AlO + NO_3^- + H_2PO_4^- \rightleftharpoons (Al_2O_3)_n AlO + H_2PO_4^- + NO_3^-$ . The reactions of Na sorption are presented in the following scheme:  
 $(Al_2O_3)_n AlO + H_2PO_4^- + NaOH \rightleftharpoons (Al_2O_3)_n AlO + OH^- + NaH_2PO_4$ ;  $NaH_2PO_4 + NaOH \rightarrow Na_2HPO_4 + H_2O$ .  
 Expts. are reported with different soils, chernozem, podzol, gray semidesert, yellow earths, and red earths (red loam).  
 Except for the red earths the sorption was not limited to the surface.  
 J. S. Ioffe

2/2

RACHINSKIY, V.V.

RUSSIA

✓ The application of the radiochromatographic method in biochemical investigations. V. V. Rachinskiy. *Izvest. Timiryazev. Sel'skokhoz. Akad.* 1954, No. 3 (Whole No. 7), 181-74.—A description of the method of radiochromatography in evaluating the products of photosynthesis where tagged CO<sub>2</sub> was used is given. It was found that a considerable portion of this CO<sub>2</sub> was transformed primarily into succharose. Other org. compds. contain very little of the tagged C. A description is also given on the radiochromatographic analysis of P-contg. compds. J. S. Joffe

M-24

RACHINSKIY, V.V.

intensity on the phosphorus metabolism in different periods of ontogenesis. V. V. Krutsova and E. I. Kayazatova (K. A. Acad., Moscow). *Biokhimiya* 19, 513-20. Intensity does not influence the appearance of the roots of the wheat plant, nor does it upon the character of P distribution in the organs, or parts of the plant. This is the stage of vernalization (1-2 leaves); the same degree under different conditions of labeled P and the intensity of its appearance of labeled P and the intensity of its activity is 10% or less of its max. value. The intensity on P metabolism becomes more but intensity at the beginning of stalk formation; leaves a strong influence at the end of stalk in the older leaves this phenomenon is not as Under conditions of water culture in 2-3 days labeled P is concd. in the roots. The intensity in the roots generally exceeds that of the somewhat lower quantity of P enters into the of vernalization, in the light stage, and in the formation the greatest amt. of P enters into compounds, less into the phospholipides and acids, and the smallest amt. into the nucleoproteins. The level of intensity of metabolite and same is true of the intensity of appearance and of the roots, varies with the stage of development rather high in the vernalization stage, increases and reaching a max. in the phase of light stage, and immediately after the period of vernalization. Immediately after the period of vernalization. B. S. Levins.



GAPON, Ye.N.; IVANENKO, D.D.; RACHINSKIY, V.V.

Application of radiochromatography to the study of the dynamics  
of adsorption exchange of phosphate ions on inorganic adsorbents.  
Dokl.AN SSSR 95 no.3:567-570 Mr '54. (MLRA 7:3)

1. Moskovskaya sel'skokhozyaystvennaya akademiya im. K.A.Timirya-  
zeva. Predstavleno akademikom S.I.Vol'fkovichem.  
(Chromatographic analysis) (Adsorption) (Phosphates)

RACHINSKIY, V.V.

Application of radiochromatographic method to the study of dynamics of sorption, motion, and distribution of phosphate ions in soils. V. V. Rachinskiy (K. A. Timiryazev Agr. Acad., Moscow). *Doklady Akad. Nauk S.S.S.R.* 95, 349-51 (1954).—Soil samples were percolated with aq. solns. of  $\text{NaH}_2\text{PO}_4$  labeled with  $\text{P}^{32}$  and the distribution of phosphate ions in the soil was studied. In krasnozem soil the adsorbed phosphate ion could not be eluted with  $\text{H}_2\text{O}$ , but it was displaced by  $\text{N NaOH}$ . In podsol soil elution with  $\text{H}_2\text{O}$  was quite effective. Chernozem, podzol, serozem, and zhelezozem soils were essentially alike in their affinity for the phosphate ion and the latter distributed itself uniformly through the specimens. In krasnozem soil, the ion was firmly adsorbed in the upper layers, as noted above; this is expected owing to high content of  $\text{Al}_2\text{O}_3$  and  $\text{Fe}_2\text{O}_3$  in this soil.  
G. M. Kosolapoff

Handwritten text: РАЧНИКОВ В. В.

JPRS: L-974-H  
CNO: 1743-B

U/L-1

THEORY AND PRACTICE OF THE APPLICATION OF ION-EXCHANGE MATERIALS

K. V. Chumtsov

Georgiya I. Praktika Primeneniya Ionobmennykh Materialov, Moscow, 1955, pp 1-164.

TABLE OF CONTENTS

Foreword . . . . . 1

Makrova, Ye. A.; Peramonova, V. I. Physico-chemical Characteristics of Ion-exchangers . . . . . 3

Aleksandrova, L. S.; Gapon, I. B.; Chumtsov, K. V. Investigation of the Physico-chemical Properties of Ion-exchange Resins for their Rating . . . . . 16

Trostyanakaya, Ye. B.; Agsev, I. P. Cation Exchange Sorbents . . . . . 31

Losev, I. P.; Kvina, A. S.; Trostyanakaya, Ye. B. Concerning the Problem of the Structure of Sulfophenol-formaldehyde Ion Exchange Sorbents . . . . . 40

Davydov, A. S. Concerning the Laws Governing Ion Exchange by Domestic Ion Exchangers of the Type of . . . . . 59

Prokhorov, G. G. Extraction of Ions out of Solutions by Selective Ion Exchange . . . . . 73

Grigorenko, O. M.; Vol'f, I. V. Results of the Investigation of Ion Exchange Adsorbents of Humic Substances . . . . . 110

Radtsigal'skiy, V. V. Concerning the Use of the Radioanalytical Method in the Study of Sorption Processes . . . . . 120

Yanbergat, A. A.; Vasil'ev, A. A.; Otkarishko, O. I. Method of Quantitative Determination of the Sulfo Group and Carboxyl Group Content of Cation Exchangers by Titration . . . . . 145

Chernobrov, S. M.; Zel'dev, I. Ye.; Gorbunov, Ye. M. Nickel Ion Exchange by Cation Exchangers . . . . . 150

*V.V. RACHINSKIY*  
RACHINSKIY, V.V.

Method for determining the assimilation and liberation of tagged carbon dioxide by plants. Fiziol.rast.2 no.2'182-186 Mr-Ap'55.  
(MIRA 8:10)

1. Laboratoriya iskusstvennogo klimata Sel'skokhozyaystvennoy akademii imeni K.A.Timiryazeva, Moscow.  
(Carbon dioxide--Isotopes) (Plants--Metabolism)

RACHINSKIY, V.V.

MD ✓ The application of the isotope method for investigating the influence of light on the entry of mineral substances into plants. I. Experiments with the isotope phosphorus-32. V. V. Rachinskii. *Izvest. Timiryazev. Sel'skokhoz. Akad.* 1953, No. 2, 193-210.—In this report on 3 series of expts. with P<sup>32</sup> nutrition of wheat, conducted in Feb.-May 1952, Nov. 1952-March 1953, and Feb.-May 1954, R. points out that expectations of high P intake during the early stages of growth, as influenced by light intensity, did not materialize. It did turn out that the intake of P by roots is not influenced by light. Neither does light affect the entry of P into leaves up to the end of the stage of the sheath-like straw formation. From then on to the period of head formation more P enters the plant. J. S. Joffe

RACHENSKIY, V.V.

Basic rule of chromatography; classification of forms of chromatographic separation

RACHINSKIY, V.V.

The theory of ion-exchange dynamics. I. Dynamics and kinetics of ion exchange during transfer  $L_1$  parallel. O. M. Toles and V. V. Rachinskiy (K. A. Timiryazev Agr. Acad., Moscow). *Zhur. Fiz. Khim.* 29, 1801-1803 (1955).—The theoretical analysis of the dynamics and kinetics of ion exchange is based on the solution of differential equations of equil. for the equil. const.  $k_{12} < 1$ . A stationary front is shown to form at  $k_{12} < 1$ , the rate of motion of that front and its width are expressed by formulas derived by the authors. The theoretical results were confirmed experimentally by radiochromatographic methods, by means of which the dynamics and kinetics of the  $Na^+$ ,  $K^+$ , and  $Rb^+$  ions were studied. The sorption velocity const. was detd. and was found to be of the order of 0.6-0.7/sec. A supposition is made, supported by expts., that ions can be filtered together with the liquid stream through the grains of swelling resins.

W. M. S.

2  
 2/11  
 SMM

RACHINSKIY, V. V.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 18/21

Authors : Todes, O. M., and Rachinskiy, V. V.

Title : Theory of the dynamics of ion exchange. Part 2. Dynamics of exchange at concave isothermal curve

Periodical : Zhur. fiz. khim. 29/10, 1909-1914, Oct 1955

Abstract : The problem of ion exchange dynamics was investigated on the basis of the equilibrium sorption dynamics theory at an exchange constant of  $K_{12} > 1$ . The theoretical results were experimentally verified by means of the radiochromatographic method. It was found that the experimental and theoretical evaluations of the rate of expansion of the ion front for marked Na were in satisfactory agreement. New experimental data are given regarding the filtration of a solution through the grains of ion-exchange tar KU-2. Three USSR references: (1948-1955). Graphs.

Institution : Agricultural Academy im. K. A. Timiryazev, Moscow

Submitted : April 8, 1955

*Handwritten:* RACHINSKIY, V.V.  
RACHINSKIY, V.V.

Paper Chromatography (in Czech). Reviewed by V.V. Rachinskii.  
Usp. sovr. biol. 39 no.3:382-383 My-Je '55 (MLRA 8:11)  
(CHROMATOGRAPHIC ANALYSIS)

RACHINSKIY, V.V., starshiy nauchnyy sotrudnik; SINYUKHINA, L.A.,  
nauchnyy sotrudnik.

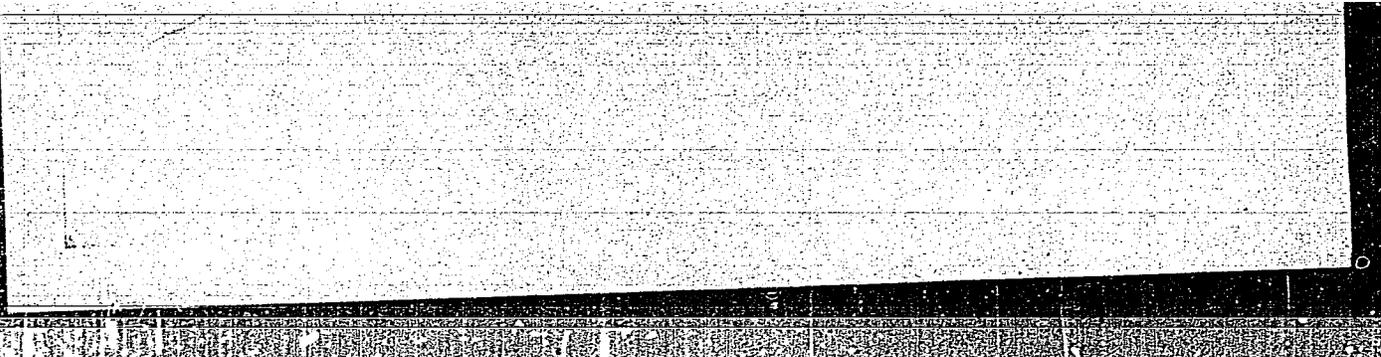
Using tracer methods in studying the effect of light intensity  
on the intake of mineral substances by plants (experiments with  
isotopes of sulphur - 35). Izv. TSKhA no.2:83-98 '56.

(MLRA 9:12)

(Radioactive tracers) (Plants, Effect of light on)  
(Minerals in plants)

**"APPROVED FOR RELEASE: Tuesday, August 01, 2000**

**CIA-RDP86-00513R001343**



**APPROVED FOR RELEASE: Tuesday, August 01, 2000**

**CIA-RDP86-00513R0013438**

RACHINSKIY, V. V.

GHMUTOV, K.V., otvetstvennyy redaktor; SHEMYAKIN, F.M., professor, otvetstvennyy redaktor; DAVANKOV, A.B., redaktor; RACHINSKIY V.V., redaktor; SALDADZE, K.M., redaktor; SENOV, P.L., professor, redaktor; TROSTYANSKAYA, Ye.V., professor, redaktor; YEGOROV, N.G., redaktor izdatel'stva; ASTAF'YEVA, G.A., tekhnicheskiy redaktor.

[Studies in ion-exchange chromatography; work of the conference on the application of ion-exchange chromatography in medical and food industry] Issledovaniya v oblasti ionoobmennoi khromatografii; trudy soveshchaniya po primeneniiu ionoobmennoi khromatografii v meditsinkoi i pishchevoi promyshlennosti. Moskva, 1957. 193 p. (MIRA 10:6)

1. Akademiya nauk SSSR. Komissiya po khromatografii. 2. Chlen-korrespondent Akademii nauk SSSR (for Gmutov)  
(Ion exchange) (Chromatographic analysis)

USSR / Plant Physiology. Photosynthesis

I

Pub Jour : Ref Zhur - Biol., No 1, 1959, No 1269

Author : Shatilov, I. S.; Rachinskiy, V. V., and Polikarpova, L. G.

Inst : Timiryazov Agricultural Academy

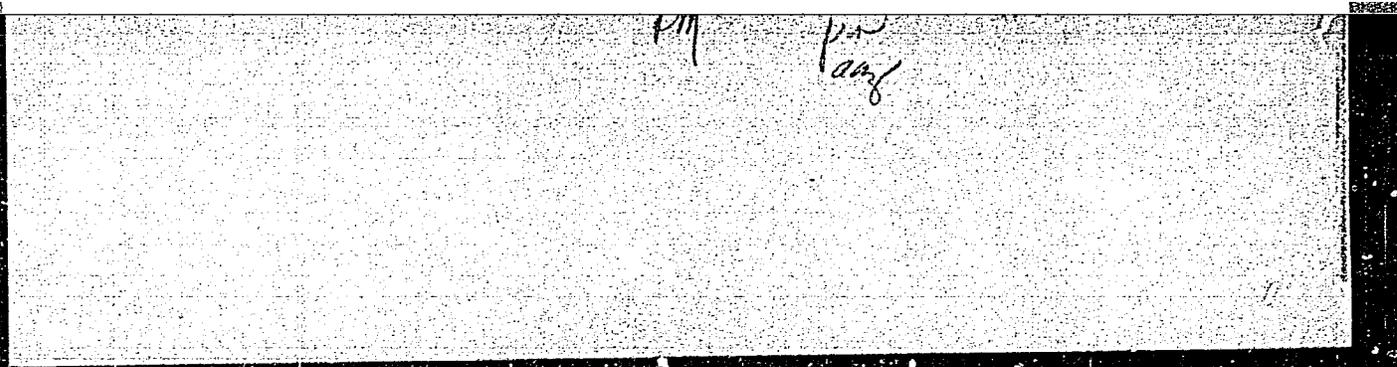
Title : Photosynthesis in Perennial Grasses and Winter Wheat Under Negative Temperatures.

Orig Pub : Iz. Timiryazovsk. S.-Kh. Akad., No. 3, 207-212, 1957

Abstract : Radioactive isotope of C<sup>14</sup> was used to determine the intensity of photosynthesis in red clover, blue alfalfa, [Medicago sativa], meadow timothy, meadow fescue, winter wheat Moskovskaya 2453, and wheat-grass hybrid No 599, grown under field conditions. In the perennial grasses and winter wheat there was observed a substantial photosynthesis at negative temperatures, with the intensity of photosynthesis being the higher the greater a plant's resistance

Card 1/2

4



RACHINSKIY, V.V.

10(4); 21(5); 24(8) PHASE I BOOK EXPLOITATION SOV/2457

Vessoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniya v narodnom khozyaystve i nauke. 2d. Moscow, 1957

Teplotekhnika i gidrodinamika trudy konferentsii, tom 4 (Heat Engineering and Hydrodynamics; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science, Vol 4). Moscow, Gosenergoizdat, 1958. 88 p. Errata slip inserted. 2,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR, and USSR. Glavnoye upravleniye po ispol'zovaniyu atomnoy energii.

Eds.: M. A. Styrlikovich (Resp. Ed.), O. Ye. Kholodovskiy, and M. S. Yemichov; Ed. of Publ. House: L. M. Sinel'nikova; Tech. Ed.: N. I. Borunov.

PURPOSE: This collection of articles is intended for scientists and laboratory workers concerned with the use of radioactive and stable isotopes.

COVERAGE: This collection of papers deals with the application of radioactive and stable isotopes as measuring tools in various types of scientific investigation. No personalities are mentioned. References are given after some of the articles.

2. Bartolomey, G.G., Ya.G. Vinokur, V.A. Kalokol'tsev, and V.I. Fetukh. Use of Gamma Rays for Studying the Process of Diffusion 9
3. Kuznetsov, S.S., and V.M. Moskvichova. Use of Gamma Radioscopy for Studying the Hydrodynamics of a Multifluid System 12
4. Poltavskiy, P.D., and M.A. Shapkin. Method of "Traced" Atoms for Investigating Water and Steam Content in Surface Boiling of a Fluid 16
5. Rudiyartsev, V.S. Determining the Specific Surface Area of Quartz Cement Powders by the Sorption Method With the Use of "Traced" Atoms 20
6. Moskvin, V.M., and I.I. Kurbatova. Use of Radioactive Isotopes for Studying Sulfate Corrosion of Concrete 28
7. Taytovich, M.A., V.I. Ferronakiy, and V.A. Lukin. Methods for Determining the Density and Moisture Content of Soils With the Aid of Radioactive Emissions 33
8. Polozova, L.G., and R.P. Roymann. Study of the Processes of Moisture Transfer in Building Materials by Means of Gamma Radioscopy 38
9. Styrlikovich, M.A., I. Kh. Khaybullov, and L. K. Khobolov. Use of Radioactive Isotopes for Investigating the Solubility of Salts in Water Vapor at High Pressures 41
10. Sterman, L.S., A.Ya. Antonyov, and A.V. Surmov. Investigation of the Characteristics of Vapor at a Pressure of 135 atm. atm. With the Aid of Radioactive Isotopes 46
11. Dubrovskiy, V.A. Use of Radioactive Isotopes for Observing the Motion of the Molten Glass Mass in Glass Furnace Tanks 52
12. Rakhinakiy, V.Y. Use of Radioactive Isotopes in Studying the Filtration of Fluids Through Porous Media 57
13. Karunakova, D.I., and A.Ya. Pruslin. Radioisotope Methods for Investigating Flow Processes of Fluids in a Porous Medium 62
14. Bortz, M.A., L.S. Zambin, V.S. Kazinskiy, and V.L. Korshak. Investigation of the Hydrodynamics of "Pulsed" in the Central Rotors of a Settling Centrifuge With the Aid of Radioactive Isotopes 67
15. Volarovich, M.P., M.V. Churayev, and B.Ya. Minkov. Investigations of the Motion of Water in Feet Under Laboratory and Field Conditions With the Use of Radioactive Isotopes 72
16. Arkhangel'skiy, M.M. Use of Radioactive Isotopes for Investigating Suspensions of River Silt 78
17. Vaynik, A.I., and A.S. Shubin. Use of Radioactive Isotopes for Investigating the Mechanism of the Drying Process 85

RACHINSKIY, V.V. Prinimal uchastiye GAPON, T.B.

[Research in the field of chromatography and radioactive tracers and the use of these methods in agrobiolgy; author's abstract of a dissertation presented for the degree of a doctor of chemical sciences] Issledovaniia v oblasti metodov khromatografii i radioaktivnykh indikatorov i primeneniia ikh v agrobiologii; avtoreferat dissertatsii, predstavlennoi na soiskanie uchenci stepeni doktora khimicheskikh nauk. Moskva, Moskovskaia sel'khoz. akad.im. K.A.Timiriazova, 1958. 32 p. (MIRA 13:12)

(Chromatographic analysis) (Radioactive tracers)

(Agricultural chemistry)

76-32-5-42/47

AUTHOR: Rachinskiy, V. V.

TITLE: The Determination of the Ionic Radii With the Aid of Ion Exchange Resins (Opredeleniye radiusov ionov pri pomoshchi ionoobmennyykh smol)

PERIODICAL: Zhurnal Fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp.1178-1179 (USSR)

ABSTRACT: The principle of this method lies in the fact that the so-called real densities of the resin are experimentally determined, just as well as the absorption volume, and that according to a given formula the ionic radius is computed. A table of the real densities of the ionic form of the resin KY-2 is given as example, which were measured according to the pycnometric method, together with the computed ionic radii of the uni-valent ions of the elements of the first group. The method of measurement of the real densities consisted in the drying of ten equal weights of resin and of the humidity determination, while five other similar weights were diluted in pycnometers with distilled water; then the final measurements and the computations were carried out according to the known way. It was

Card 1/2

76-32-5-42/47

The Determination of the Ionic Radii With the Aid of Ion Exchange Resins

observed that with the increase of the atomic weight of the ions the real density of the resin increases monotonously, the function in a certain interval showing linear character, and that determinations by extrapolation can be carried out. The measuring accuracy increases with the atomic weight, i.e. with the increase of the ionic radii with which already in the case of sodium the error limit drops abruptly below 10%. It is assumed that the exchange ions absorbed by the resin are in a kind of diluted state and do not have dense ionic packing. The mean distance between the exchange ions is given to be  $10^{-7}$  cm which is, for instance, 5 - 10 times greater than the ionic diameter; the possibility is assumed that a greater influence on the ionic dimensions takes place by an interaction of the exchange ions directly with the organic polymer. There are 2 figures, 1 table, and 3 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy institut inzhenerov vodnogo khozyaystva im.  
V. R. Vil'yamsa (Moscow Institute of Hydrology imeni  
V.R. Williams)

SUBMITTED: May 11, 1957  
Card 2/2

1. Ions--Distribution
2. Ion exchange resins--Properties
3. Density sensitive indicators--Applications

И. Р. А. Ч. Х. В. С. К. И. Я., У. У.

5(2).(3)  
 PHASE I BOOK EXPLOITATION SOV/2554  
 Академия наук ИСР. Отделение химической наук. Комиссия по  
 хромотографии  
 Исследования в области ионообменного, распределительного и осадочного  
 хромотографии (Studies in the Field of Ion Exchange, Distribu-  
 tion and Precipitation Chromatography) Moscow, 1959. AN SSSR,  
 1959. 150 p. Errata slip inserted. 3,500 copies printed.

84. of Publishing House: M.G. Yegorov; Tech. Ed.: I.M. Guseva;  
 Editorial Board: M.V. Chetov, corresponding Member, USSR Academy  
 of Sciences (Resp. Ed.); P.M. Shemyakin, Professor; K.M. Ol'chanova,  
 Professor; K.M. Saldaize, Doctor, and N.M. Tuntitskiy, Professor.

PURPOSE: This book is intended for chemists and chemical engineers.  
 COVERAGE: The book discusses studies in ion-exchange, distribution,  
 and precipitation chromatography. Various problems of the theory  
 of chromatography and its application are also considered. This  
 is the first collection of articles published by the Committee on  
 chromatography. The first collection was published in 1954 under  
 the title: "Исследования в области хромотографии" (Studies  
 in the Field of Chromatography); the second was published in 1955  
 under the title "теория и практика ионообменного хромото-  
 графического метода" (Theory and Practice of the Ion-Exchange Me-  
 thod); and the third was published in 1957 under the title "Ис-  
 следования в области ионообменного хромотографического метода"  
 (Studies in the Field of Ion-exchange Chromatography). Personalities are men-  
 tioned. References are given after most of the articles.

Davidov, A.T. and J.R. Lisovina. Study of the Sorption Value and  
 the Exchange Energy of Cations on Wofatite With Relation to Tem-  
 perature 21

Rachinskii, I.Y. Theory of the Stationary Front of Dynamic Sorp-  
 tion 24

Saldaize, K.M., and Ye. M. Fedukina. Effect of the Ionic  
 Structure on the Ion Exchange Process 39

Saldaize, K.M., and Ye. A. Sheynina. Kinetics of Cation Exchange  
 Processes on Carboxylic Cationites 48

Svir, L.S., and P.M. Shemyakin. Purification of Salts With the  
 Aid of an Ion-exchange Counterflow Installation 55

Pedogozza, G.P., M.M. Tuntitskiy, and Ya. P. Chernava. Study of  
 the Kinetics of Complete Cation Exchange on Sulfonated Resins 63

Chernava, Ya. P., A. B. Fashkov, S.R. Barabnov, and M.M. Tuntit-  
 skiy. Change in the Selectivity of Strongly Acidic Monofunctional  
 Cationites in Relation to the Concentration of Sulfo Groups and  
 Interchain Bonds in Cationites 70

Pedogozza, G.P., Ye. P. Chernava, and M.M. Tuntitskiy. Study of  
 the Diffusion of Ions Through a Cationite Membrane  
 Shemyakin, P.M. Organic Reagents Used in Adsorption and Distri-  
 bution Chromatography, Their Classification, and Trends of Investi-  
 gation 80

Mitselonskiy, M.I., and E.K. Shchuykina. Some New Phenomena  
 Which Accompany the Process of Electromigration of Organic  
 Substances 90

Polyanskiy, M.O. Study of Thermal Desulfonation of Sulfo-  
 phenolformaldehyde Resin SU-1 95

Kopylov, V.D., and E.M. Ol'chanova. Precipitation Chromato-  
 graphy 105

Kopylov, V.D., and E.M. Ol'chanova. Secondary Phenomena in  
 Precipitation Chromatography 113

Ol'chanova, E.M., and M.M. Morosova. Determination of Calcium  
 by the Precipitation Chromatography Method With the Indicator  
 Murexide 124

Ol'chanova, E.M., and Z.A. Goloskova. Ion-exchange Paper  
 Chromatography in Qualitative Analysis 128

Grigoryeva, B.V. Chromatographic Method of Qualitative Analysis  
 for Bar Dyesuffs 134

Saldaize, K.M., M.M. Ol'chanova, and I.Y. Ivanova. Sorption of  
 Mineral Acids and of their Salts on Cationites 138

Gorbachyov, M.A., and K.M. Saldaize. Absorption of Complex Zinc  
 Anions on Anionites With Different Basicity 143

RACHINSKIY, V.V., doktor khim.nauk

Principles of the general theory of dynamics of sorption and  
Chromatography. Report 1: Theory of the frontal dynamics of  
sorption of one substance. Izv.TSKhA no.4:187-196 '59.  
(MIRA 12:11)

(Sorption)

RACHINSKIY, V.V., doktor khimicheskikh nauk

Principles of a general theory of the dynamics of sorption and chromatography. Report No.2: Theory of frontal chromatography. (MIRA 13:6)  
Izv.TSKhA no.6:201-206 '59.  
(Sorption) (Chromatography)

RACHINSKIY, V.V., doktor khimicheskikh nauk; PLATONOV, F.P., kand.  
khimicheskikh nauk

Radioisotope laboratory at the Timiriazev Academy. Izv. TSKhA  
no.6:239-250 '59. (MIRA 13:6)  
(Radioisotope laboratories)

RACHINSKIY, V.V., doktor khim.nauk, red.; YAGLOVA, L.G.; MAMUL', Ya.V.;  
MEDVEDEV, Zh.A.

[Practical work in the use of isotopes and radiations in  
agriculture] Praktikum po primeneniю isotopov i izlucheniю  
v sel'skom khozsisistve. Pod obshchei red. B.V.Rachinskogo.  
Moskva, Mosk.sel'khoz.akad. No.6. [Use of labeled atoms in  
plant physiology and biochemistry] Primenenie metoda mechenykh  
atomov v fiziologii i biokhimii rastenii. 1960. 101 p.

(MIRA 14:1)

(Radioactive tracers)  
(Plant physiology--Research)

YEMEL'YANOV, V.A.; RACHINSKIY, V.V., doktor khim.nauk, red.

[Practical work in the use of isotopes and radiations in agriculture] Praktikum po primeneniю izotopov i izlucheniю v sel'skom khoziaistve. Pod obshchei red. V.V.Rachinskogo. Moskva, Mosk.sel'khoz.skad. No.7. [Use of nuclear radiations in soil science and land improvement] Primenenie iadernykh izlucheniю v pochvovedeniю i melioratsii. 1960. 93 p.

(MIRA 14:1)

(Gamma rays)

(Soil research)

RACHINSKIY, V.V., doktor khim.nauk; TRESHCHOV, A.G.; KOLOSOV, I.V.

[Handbook on the use of isotopes and radiation in agriculture]  
Praktikum po primeneniю isotopov i izlucheniю v sel'skom  
khozisistve. Pod obshchei red. V.V.Rachinskogo. Moskva, Mosk.  
sel'khoz.akad. No.5. [Radiochemistry] Radiokhimiia. 1960.  
98 p. (MIRA 14:4)  
(Radioisotopes) (Agricultural research)

RACHINSKIY, V.V., doktor khimicheskikh nauk

Principles of a general theory of the dynamics of sorption and chromatography; report 3. Izv. TSKhA no.2:157-166 '60. (MIRA 14:4)  
(Sorption) (Chromatography)

RACHINSKIY, V.V., doktor khimicheskikh nauk, prof.

Theory of the dynamics of ion exchange sorption and chromatography  
[with summary in English]. Izv. TSIKhA no.5:184-193 '60. (MIR: 13:11)  
(Ion exchange) (Chromatographic analysis)

RACHINSKAYA, V.V.; RACHINSKIY, V.V.

Investigating hydrodynamic properties of ion exchange resins.

Izv. TSKhA no.6:188-197 '60.

(MIRA 13:12)

(Resins, Synthetic)

(Ion exchange)

RACHINSKIY, V.V., dotsent, kand.fiziko-matematicheskikh nauk

Use of the radiochromatographic method in studying percolation of liquids through porous media. Nauch.zap. MIIVKH 22:92-106 '60. (MIRA 13:8)  
(Percolation) (Radioactive tracers)

RACHINSKIY, V.V., doktor khimicheskikh nauk, prof.

Theory of the dynamics of ion exchange sorption and chromatography.  
Report No. 2: Non-equilibrium dynamics of the sorption of equivalent ions. Izv. TSKHA no.3:177-194 '61. (MIRA 14:9)  
(Ion exchange) (Chromatographic analysis)

RACHINSKIY, V.V.; RUSTAMOV, S.M.

Theory of the dynamics of ion exchange sorption and chromatography; report No. 3: Dynamics of the ion exchange sorption of ions of different valence. Izv. TSKhA no.6: 214-223 '61. (MIRA 16:8)

(Chromatographic analysis) (Ion exchange)

RACHINSKIY, V.V., doktor khim.nauk

International conference on paper chromatography. Vest. AN SSSR  
31 no.11:102-103 N '61. (MIRA 14:11)  
(Paper chromatography--Congresses)

RACHINSKIY, V.V.; TSZYA DA-LIN [Chia Ta-ling]; CHISTOVA, Ye.D.

Dynamics of salt transfer in porous media. Izv.

TSKHA no.2:165-183 '62.

(MIRA 15:9)

(Soil percolation)

(Salts)

S/186/62/004/003/002/022  
E075/E436

AUTHORS: Rachinskiy, V.V., Rustamov, S.M.

TITLE: On the theory of errors of indirect measurements in the studies of sorption processes by the method of radioactive indicators

PERIODICAL: Radiokhimiya, v.4, no.3, 1962, 253-260

TEXT: The author considers the theory for the evaluation of errors in indirect measurements for two methods involving the application of radioactive indicators: 1) determination of the concentration of labelled sorbed material in the sorbent by changes in the specific activity of the solution; 2) determination of the exchange capacity of sorbents according to changes in the specific activity of the solution during isotopic exchange. In the first case the formula giving the concentration  $S$  of the sorbed material in the sorbent is

$$S = \frac{VC_0}{g} (1 - \alpha) \quad (4)$$

where  $V$  is the volume of solution with the original concentration  
Card 1/3

On the theory of errors ...

S/186/62/004/003/002/022  
E075/E436

$C_0$  of the sorbed material;  $g$  is the weight of sorbent and  $\alpha = a/a_0 = A/A_0$ , where  $A$  and  $A_0$  are activities of the radioactive solution samples before and after sorption respectively. The relative error is given by

$$\frac{\Delta S}{S} = \frac{A \Delta A_0}{A_0 (A_0 - A)} + \frac{\Delta A}{A_0 - A} \quad (5)$$

The dependence of  $\Delta S/S$  on  $\alpha$  is given by

$$\frac{\Delta S}{S} = \frac{\epsilon_0 \alpha + \sqrt{P\alpha + Q}}{1 - \alpha} \quad (9)$$

where  $\epsilon_0$  is a known function giving the error in the statistics of radioactive disintegration and  $P$  and  $Q$  are functions depending on the time of measurement of the solution's activity, the background of the counter and the time of measurement of the background. It was shown that with the increasing  $\alpha = A/A_0$  the quantity  $\Delta S/S$  increases and within the limit  $\alpha \rightarrow 1$

Card 2/3

On the theory of errors ...

S/186/62/004/003/002/022  
E075/E436

the error  $\Delta S/S \rightarrow \infty$ . However, the precision sufficient in practice (error  $< 10\%$ ) can be obtained for  $\alpha < 0.8$ . The relative error for the determinations of the exchange capacity of sorbents is given by

$$\frac{\Delta S_0}{S_0} = \frac{\Delta A_0}{A_0 - A} + \frac{A_0 \cdot \Delta A}{A(A_0 - A)} \quad (28)$$

where  $S_0$  is concentration of the sorbed material in solution after the equilibrium is reached. It was shown that  $\Delta S_0/S_0$  has a minimum value and for  $\alpha \rightarrow 0$  and  $\alpha \rightarrow 1$  the error  $\Delta S_0/S_0 \rightarrow \infty$ . The precision adequate in practice (error  $< 10\%$ ) is obtained for the range  $\alpha \simeq 0.1$  to  $0.7$

SUBMITTED: May 12, 1961

Card 3/3

RACHINSKIY, V.V.; RUSTAMOV, S.M.

Determination of the ion exchange constants by the method  
of elution radiochromatography. Radiokhimiya 4 no.4:434-442  
'62. (MIRA 15:11)

(Ion exchange)

(Radiochemistry)

RACHINSKIY, V.V.

[Use of labeled atom methods in soil science and melio-  
ration] Primenenie metodov mekheryki atomov v pochvo-  
vedenii i melioratsii. Moskva, Sel'khoz. akad., 1962.  
92 p. (Praktikum po primeneniui izotopov i izlucheniui  
v sel'skom khoziaistve, no.8) (MIRA 18:9)

RACHINSKIY, V.V.

Theory of ion exchange dynamics. Part 5. Zhur. fiz. khim. 36  
no.9:2018-2023 S '62. (MIRA 17:6)

1. Moskovskaya sel'skokhozyaystvennaya akademiya imeni Timiryazeva.

RAGHINSKIY, V.V.; TSZYA DA-LIN; CHISTOVA, Ye.D.

Investigating the dynamics of salt movement in porous media.  
Report No.2: Dynamics of the leaching of salts from porous media.  
Izv. TSKHA no.1:176-192 '63. (MIRA 16:7)

(Leaching)

ABDURAGIMOV, T.A.; AVER'YANOV, S.F.; RACHINSKIY, V.V.

Using the method of radioactive indicators for investigating the dynamics of the leaching of a salt solution from soils on a model with a drain. Izv. TSKHA no.1:226-232 '63.

(MIRA 16:7)

(Leaching)

(Drainage)

GARNETSKIY, V.A., aspirant; KOBIZEV, Ye.I., starshiy laborant; RACHINSKIY,  
V.V., doktor khimicheskikh nauk, prof.; FURMAN, A.O., starshiy  
prepodavatel'

Variant of the automatic apparatus for recording the elution  
and column curves of the distribution of tagged elements in  
chromatographic analysis. Izv. TSKHA no.4:224-229 '63.  
(MIRA 17:1)

MAZEL', Yu.Ya.; RACHINSKIY, V.V.; TAO DZHUN'-VEN'; SHITT, T.P.

Determining free phosphorus in soil. Pochvovedenie no.8:101-103  
Ag '63. (MIRA 16:9)

1. Moskovskaya sel'skokhozyaystvennaya akademiya imeni K.A.  
Timiryazeva.

BR

ACCESSION NR: AR4036035

S/0299/64/000/006/G009/G009

SOURCE: Referativny\*y zhurnal. Biologiya, Abs. 6G49

AUTHOR: Rachinskiy, V. V.

TITLE: Determination of the absorption and excretion of labeled carbonic acid by plants, using the method of hermetic chambers with counters

CITED SOURCE: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, vy\*p. 89, 1963, 283-291

TOPIC TAGS: photosynthesis, respiration, plant physiology, carbon dioxide excretion

TRANSLATION: Experiments were carried out to study the absorption and excretion of  $C^{14}O_2$  by plants (oats, barley, wheat, millet, beans, sunflowers and others) in various phases of ontogenesis (in the phase of 3, 4, or 5 of leaves), cultivated in sand and in water. The intensity of  $C^{14}O_2$  absorption for the whole part above the ground was approximately 5-10 mg  $CO_2$ /hour/g of raw leaf, while the excretion was 1-2 mg  $CO_2$ /g. In the dark the plants excreted ~ 10-20% of the absorbed  $C^{14}O_2$ , while in experiments with oats the excretion of  $C^{14}O_2$  began after a 5 minute exposure to light, maximal excretion being obtained after 10 minutes exposure. In experiments with separate leaves the intensity of

Card 1/2

ACCESSION NR: AR4036035

absorption of  $C^{14}O_2$  was 10-25 mg per  $dm^2$ /hour. The data obtained were of the same order of magnitude as during measurement of photosynthesis by chemical and monometric methods. In experiments on the measurement of photosynthetic ability in the 3 layers of bean leaves, the highest amount of  $C^{14}O_2$  was absorbed by the leaves of the middle layer.  
V. Korshunova

DATE ACQ: 09Apr64

SUB CODE: LS

ENCL: 00

Card 2/2

RACHINSKIY, V.V.; KOLCSOV, I.V.

Determination of the absorption capacity of ion exchange resins  
by a gravimetric method. Zav.lab. 29 no.8:926-927 '63. (MIRA 16:9)

1. Moskovskaya sel'skokhozyaystvennaya akademiya imeni K.A.Timir-  
yazeva.

(Ion exchange resins) (Absorption)

RACHINSKIY, V.V.; LUR'YE, A.A.

Precipitation isotherm. Dokl. AN SSSR 152 no.6:1365-1368 0 '63.  
(MIRA 16:11)

1. Moskovskaya sel'skokhozyaystvennaya akademiya im. K.A.  
Timiryazeva. Predstavleno akademikom V.I.Spitsynym.

RACHINSKIY, Vladimir Vatslavovich; SEMENKO, E.I., red.

[Introduction to the general theory of the dynamics of sorption and chromatography] Vvedenie v obshchuiu teoriyu dinamiki sorptsii i khromatografii. Moskva, Izd-vo "Nauka," 1964. 136 p. (MIRA 17:8)

PERTSOVSKIY, Yevgeniy Solomonovich; SHUBIN, Anatoliy Stepanovich;  
RACHINSKIY, V.V., prof., rezensent; KARDASHEV, A.V.,  
Zhd. tekhn.razk.; rezensent; YERMOKHINA, N.V., red.

[Use of atomic energy in the food industry] Primenenie  
atomnoi energii v pishchevoi promyshlennosti. Moskva,  
Pishchevaia promyshlennost', 1964. 398 p.  
(MIRA 18:3)

L 25777-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Ps-5 DD

ACCESSION NR: AR50000952 S/0299/64/000/020/G002/G002

SOURCE: Ref. zh. Biologiya. Sv. t., Abs 20G12

AUTHOR: Rachinskiy, V. V.

TITLE: Composition of photosynthetic products in various plant species

CITED SOURCE: Vestn. s.-kh. nauki, no. 3, 1964, 20-22

TOPIC TAGS: plant, photosynthesis, photosynthetic product composition, radioactive carbon, radiochromatogram, assimilator

TRANSLATION: Composition characteristics of photosynthetic products of various plant species (barley, perilla, wheat, soybean, oats.

Card 1/2

L 25777-65

ACCESSION NR: AR5000952

tive and qualitative composition characteristics for assimilators  
containing carbon-14. For example, soybean and millet do not have  
labelled raffinose, millet synthesizes little fructose. etc. TSM4

Card 2/2

MAZUR, T.; RACHINSKIY, V.V.

Studying the transformation of amino acids in soil; experiments  
with 2-C<sup>14</sup>-glycine. Pochvovedenie no.3:58-63 Mr '64.  
(MIRA 17:4)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya  
Imeni Timiryazeva.

RACHINSKIY, V.V., prof., doktor khimicheskikh nauk; LUN'YE, A.A., aspirant

Theory of ion precipitation sorption and chromatography. Izv.

TSKHA no.4:198-205 '64.

UMIA 17-113

1. Kafedra prikladnoy atomnoy fiziki i radiokhimi i Sel'skokhozyaystvennoy akademii imeni Timiryazeva.

RACHINSKIY, V.V., prof., doktor khimicheskikh nauk

Effect of the intensity of light on the uptake of mineral substances by plants; experiments with sodium-24, calcium-45, and iron-59 isotopes. Izv. TSKHA no.4:206-209 '64.

(MIRA 17:11)

1. Kafedra prikladnoy atomnoy fiziki i radiokhimii Sel'skokhozyaystvennoy akademii imeni Timiryazeva.

RACHINSKIY, V.V., prof. doktor khim. nauk; IGUMNAYA, I.A.; SALDADZE, K.M.;  
TURCHAK, Ye.B.

Comparative determination of the absorption capacity of anion exchangers by using the weight, statical, isotope exchange, and radiochromatographic methods. Izv. TSKHA no.6:195-201 '64  
(MIRA 18:1)

1. Kafedra prikladnoy atomnoy fiziki i radiokhimii Moskovskoy ordena Lenina sel'skokhozyaystvennoy akademii imeni K.A. Timiryazeva.

RACHINSKIY, V.V.; RUSTAMOV, S.M. (Moscow)

Theory of ion exchange dynamics. Part 6. Zhur. fiz. khim. 38  
no.3:664-671 Mr '64. (MIRA 17:7)

1. Timiryazevskaya sel'skokhozyaystvennaya akademiya.

RACHINSKIY, V.V.; RUSTAMOV, S.M. (Moscow)

Theory of ion exchange dynamics. Part. 7. Zhur. fiz. khim.  
38 no.4:885-890 Ap '64. (MIRA 17:6)

1. Sel'skokhozyaystvennaya akademiya imeni K.A. Timiryazeva.

DAVIDOVA, Ye.G.; RACHINSKIY, V.V.

Ion-exchange cellulose and its use in chromatography. Usp.khim. 34  
no.2:253-275 F '65. (MIRA 18:5)

1. Moskovskaya sel'skokhozyaystvennaya akademiya imeni Timiryazeva.

RACHINSKIY, V.V.; LENSKIY, L.A.

Isotope exchange sorption of tritium from aqueous solutions  
under dynamic conditions. Dokl. AN SSSR 162 no.2:380-383 My  
1965. (MIRA 18:5)

I. Sel'skokhozyaystvennaya akademiya im. K.A.Timiryazeva. Sub-  
mitted September 4, 1964.

RACHINSKIY, V.V.; LUR'YE, A.A.

Arrangement of zones in precipitation chromatograms. Dokl. AN SSSR  
162 no.6:1326-1329 Ja '65. (MIRA 18:7)

1. Moskovskaya sel'skokhozyaystvennaya akademiya im. K.A.Timiryazeva.  
Submitted December 9, 1964.

BORISOVA, N.I.; MAZEL', Yu.Ya.; RACHINSKIY, V.V., doktor khim.  
nauk

[Use of the method of labeled atoms in soil chemistry]  
Primenenie metoda mechenykh atomov v agrokhimii. Mo-  
skva, Sel'khoz. akad., 1963. 47 p. (Praktikum po pri-  
meneniyu izotopov i izlucheni v sel'skom khoziaistve,  
no.9) (MIRA 18:9)